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THE ETHNOBOTANY OF THE FLATHEAD INDIANS OF WESTERN MONTANA

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INTRODUCTION

Little thorough ethnobotanical research has been done with the Flathead Indians. This paper brings together information from the research of Malouf (1971), Stubbs (1966), Teit (1930) and Turney-High (1937), but more importantly uses as the main sources of its information living Flathead Indians whom I interviewed in the summer and fall of 1973 on the Flathead Indian Reservation in western Montana. As only the oldest tribal members remember native plants, their uses, names and cultural significance, time is running out to record this valuable information.

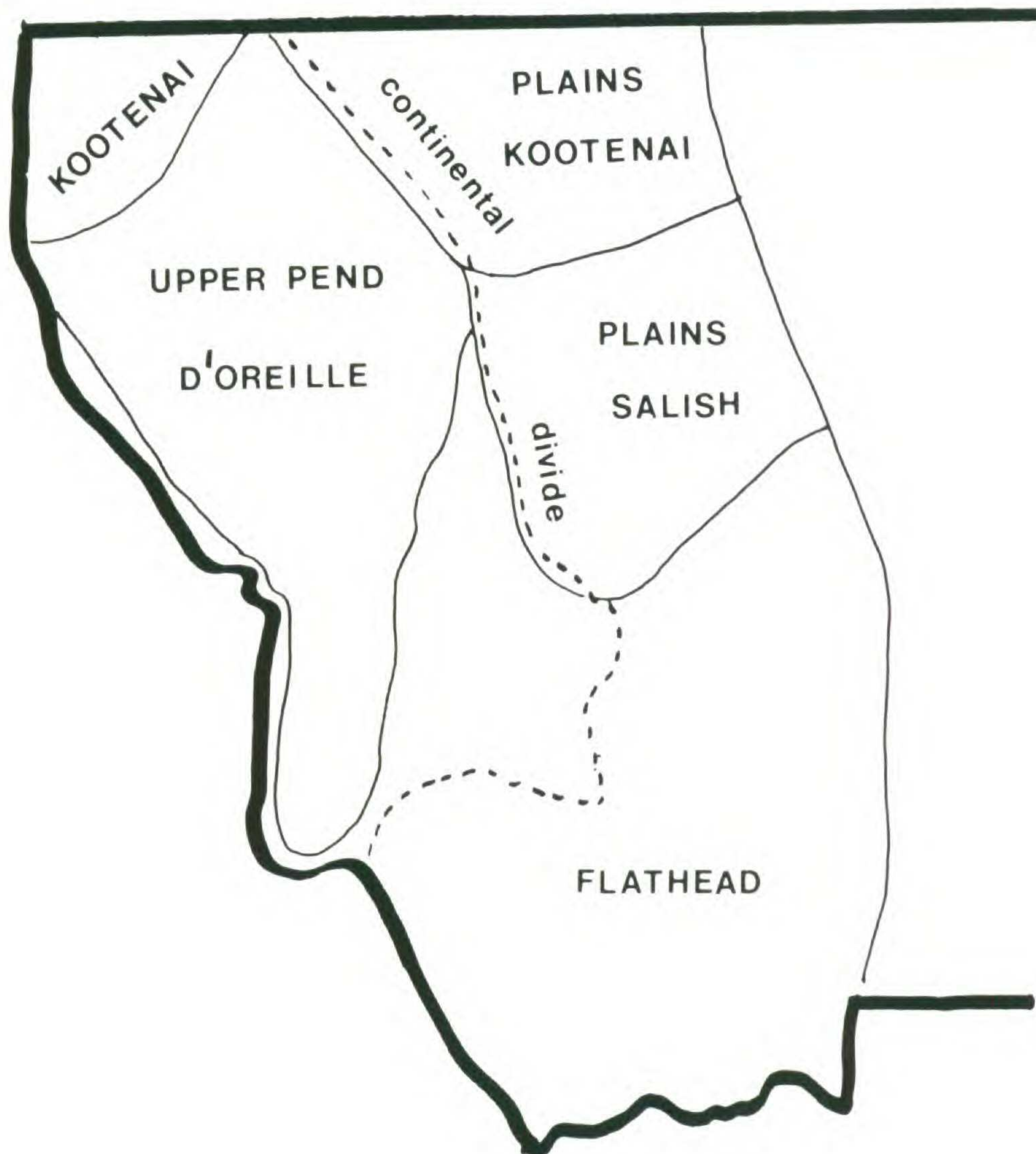
This paper has as its purpose the examination of some 110 species of plants used by the Flathead Indians, including descriptions of the methods used in collection, preparation and utilization for food, medicine, technology and religion, as well as phonetic descriptions of the Indian names for the plants.

THE FLATHEAD INDIANS

The Flathead Indians occupy the southern half of the Flathead Indian Reservation in western Montana. They are members of the Salishan-speaking language group and are closely related to

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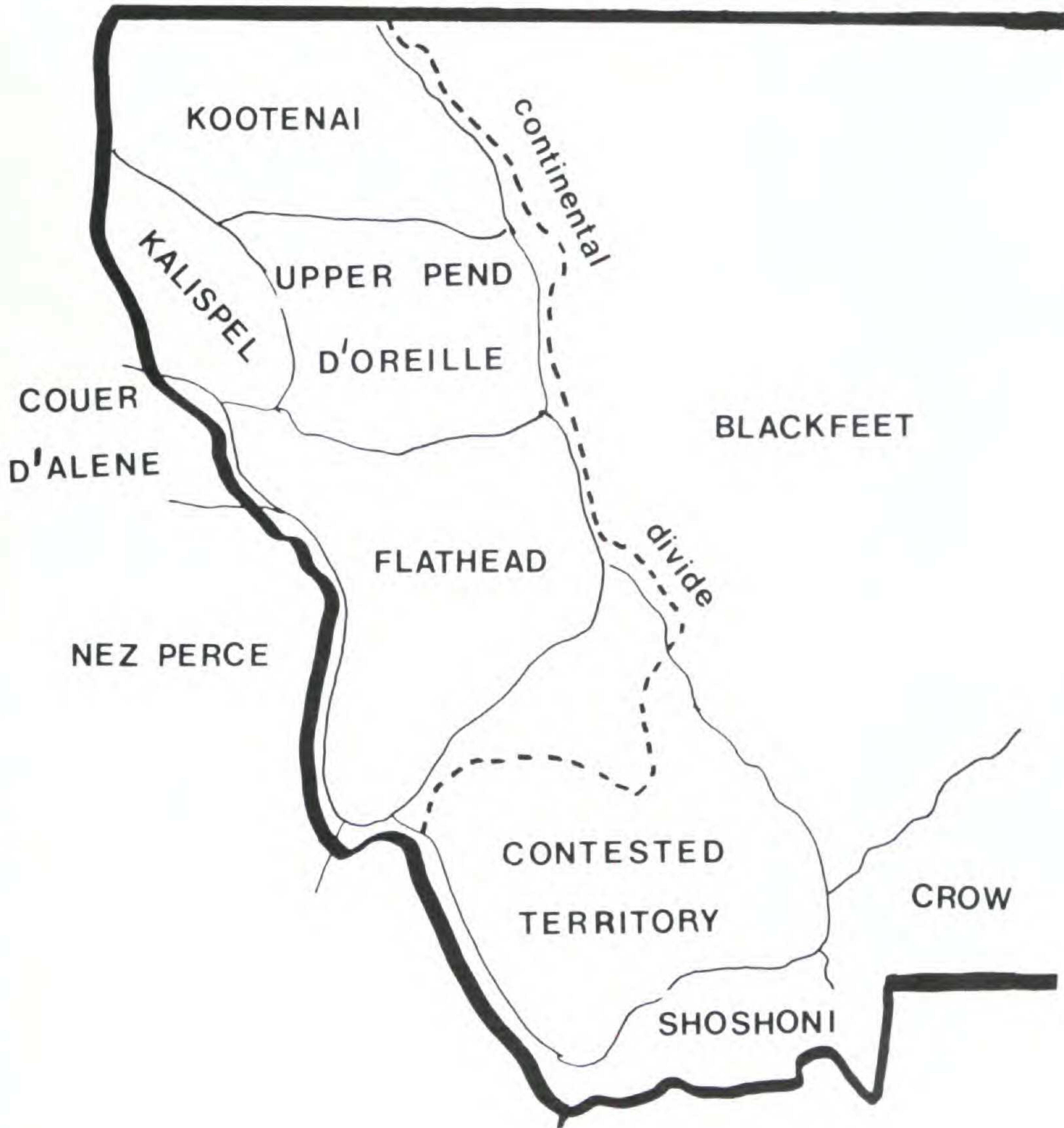
CIRCA 1730



Adapted from a map by Malouf, 1971

TRIBAL DISTRIBUTIONS IN WESTERN MONTANA

CIRCA 1855



Adapted from a map by Malouf, 1971

the Kalispel and Pend d'Oreille who also live on the same reservation. These distinctions, however, have become blurred in recent years, largely through intermarriage.

Though considered to be a plateau tribe, the Flatheads once were a plains people before the introduction of the horse. In about 1600 their territory was surrounded by the Rocky Mountains to the west and south; the Gallatin, Crazy and Little Belt Mountains to the east; and the Big Belt Mountains to the north. They were divided into 4 distinct bands, with one in Helana, two near Butte, and one in the Big Hole Valley (Teit, 1937).

In the 1700's, about the time that they acquired the horse, the Blackfeet, Crow and other tribes arrived from the east and pushed various tribes, then occupying the western fringes of the Plains, west and south. The Flathead retreated to the gentle Bitterroot Valley of western Montana. They continued hunting east of the continental divide for buffalo, but continued Blackfeet hostility required carefully planned expeditions, these often being accompanied by such friendly western tribes as Pend d'Oreille, Kootenai, Nez Perce and Shoshoni (Teit, 1930).

The original population of the Flatheads is difficult to estimate. Teit (1930) estimated the total population of the Flathead tribes at the time of the introduction of the horse as 15,000, but Fahey (1974) believed 4,000 to be a more realistic figure. The original population was greatly decimated due to diseases, especially a smallpox epidemic in the 1840's and to warfare. By 1909 the U. S. Department of Indian Affairs gave these estimates of the Salishan population: Flathead, 598; Pend d'Oreille 665; Kalispel 182; Spokane, 138. Due to considerable intermarriage with whites it is now difficult to give accurate estimates of the Indian population. Furthermore, most of the fertile land once possessed by Indians has passed to white ownership, resulting in further fragmentation and disintegration of Indian values and customs.

PLANTS USED BY THE FLATHEAD INDIANS

The following list of plants is arranged alphabetically in the categories of Fungi, Lichens, Bryophytes, Pteridophytes and their allies, Gymnosperms, and Angiosperms (Monocots and Dicots). Common names are given in parenthesis. When known,

Flathead names are included, and where possible, with their translations. These have been recorded from Flathead Indians from the Flathead Indian Reservation in western Montana. This would not have been possible without the help of Dr. Anthony Mattina, Salishan linguist at the University of Montana, though I have modified the symbols for ease of typing. A key to the orthography used is given in Appendix II.

The list mostly describes plant species, their uses, and Flathead names. Abbreviated symbols to references are as follows: Ad (Adams, 1973); PB (Beaverhead, 1973); RD (Diettert, 1955); LP (Parker, 1973); AP (Pierre, 1973); JP (Pilko, 1973); MSS (Small Salmon, 1973); RS (Stubbs, 1966); T-H (Turney-High, 1937); AV (Vanderburg, 1973); CW (Woodcock, 1973). General methods of collection, preparation and the role of plants in Flathead culture are discussed in the section following the listings. Appendix I is an index to the scientific names of plants mentioned in the text. Appendix III provides a listing of general botanical words used.

FUNGI

The pileus of a species of *Armillaria*, *Collybia*, and *Russula* was removed and the cap was boiled in a rich broth or was fried for eating (RS). A species of another kind found growing on *Larix occidentalis* was placed on aching teeth for relief (PB), and the spores of a species of *Lycoperdon* were rubbed on eyelids and cheeks of infants to induce sleep (RS,AV).

LICHENS

Alectoria sp. — (Black tree moss)
Uncooked: shawtemqen (PB,AP,CW)
Cooked: sqwu?a (PB): 'baked'

This common species of black tree moss, actually a lichen, was soaked in water and then baked with camas or was baked separately. If baked separately, it was left in the fire pit only over one night. The resulting black, gelatinous material was either eaten with camas, or was sun dried, powdered and mixed with the sweet powder made from camas. A thick pasty substance was made by adding water, and was eaten more as a luxury food than as a staple (RS). Each family consumed about 25 pounds of this lichen each year (T-H).

Letharia vulpina (L.) Vain — (Wolf moss)

skwalyo (PB,AV)

A childbirth medicine was made from a species of tree "moss," very possibly *Letharia vulpina*. The expectant mother's body was rubbed with it (RS, AV).

A yellow "moss" found on *Pseudotsuga menziesii*, also probably *Letharia*, was used as a toothache medicine. It was soaked in hot water for ten to fifteen minutes and then placed in the area of the cavity or toothache. It was believed that this plant was poisonous, so the patient was warned not to swallow the saliva. In a short while the pain of the tooth would be alleviated, and after a few days the tooth would break apart into pieces (PB).

Sores and scabs were first washed and then this lichen was placed on the affected area as a poultice (AP, CW).

It was also used to dye feathers a yellow greenish color (PB).

BRYOPHYTA

Claopodium sp. — (Moss)

This absorbent moss was used to line cradle boards and as a padding inside baby diapers. Placed both fore and aft, the moss lining lasted about twelve hours, and then was washed and reused (PB).

PTERIDOPHYTA

Equisetum arvense L. — (Horsetail)

íuxweń (Ad, PB, AP, AV, CW)

A tea made from the whole plant was used as a diuretic (Ad, PB).

GYMNOSPERMAE

CUPRESSACEAE

Juniperus communis L. — (Common juniper)

ćiqćeqenlshp (PB)

Juniperus scopulorum Sarg. — (Rocky Mountain juniper)

punlshp (Ad, PB, LP, AP, AV, CW)

A tea made from the boughs was drunk for colds, pneumonia, and fevers (Ad, AP, MSS, CW). It was believed that the tea made from the boughs having fleshy cones intact was stronger (Ad). It was also drunk as a general tonic (RD). A decoction applied externally to rheumatic and arthritic areas supposedly alleviated the pain, but did not cure it (PB).

The boughs were burned with charcoal in a can and held beneath the nose of a sick horse (PB). The boughs were also burned on stove tops as incense (Ad, PB, RS, AV) or were used as a body scent (PB).

Thuja plicata Donn. — (Western red cedar)

Wood: astkw (PB, AP, CW)

boughs: mselshp (PB, AP, AV, CW)

Baskets or bags were made from the bark. The strips of bark were woven into differently shaped baskets; a single, large piece of bark was shaped into a bag. The baskets were used primarily for berry picking, while the bag was used for storage (PB).

PINACEAE

Abies grandis (Dougl.) Forbes — (Grand fir)

quilcen (PB, MSS)

An infusion of the resin from the punctured bark blisters was sweetened and drunk for whooping cough (PB). The resin was also rubbed on the throat and chest for colds. An eyewash was made by boiling the bruised needles. The dried and finely pulverized needles were also used as a baby powder (RS).

Abies lasiocarpa (Hook.) Nutt. — (Subalpine fir)

maninshp (Ad, PB, AP, MSS, CW)

The needles were dried, pounded into a powder, and mixed with grease or marrow; this was then rubbed on diseased or infected skin; if the diseased skin was open and runny, then this powder was sprinkled directly on the festering sore (PB).

For cuts, the hardened resin was pulverized, mixed with warmed lard, and then applied to the wound (MSS). A baby powder was made from the dried and pulverized needles (PB,

RD, AV); it was used on baby rashes caused by excessive urination (PB). The needles were placed on the stove as an incense (Ad, PB, AV) or hung on walls to give rooms a pleasant aroma (AV). The pulverized needles were also used to scent shawls (AP, CW) or were used as a body scent (PB).

The finely powdered needles were also mixed in equal proportions with lard and applied to hair as an oil; it was noted to impart a fragrant evergreen scent and a greenish color to hair (Ad, PB). A mixture of the foliage or stems of *Abies lasiocarpa*, *Artemisia ludoviciana*, *Ceanothus velutinus*, *Ligusticum canbyi* and *Pteropora andromeda* was used to make a hair restorer (Ad).

Larix occidentalis Nutt. — (Western larch)

Tree: caqwelsh (PB, AP, AV, CW)

Boughs: chchqwelshelshp (PB)

Hardened sap: sanćemćem (PB)

The hardened sap was collected from larch as well as from pine trees; it was chewed like gum (AP, RS, AV).

A sweet syrup was made from the sap: it was collected from hollowed-out portions of the trunk and then was allowed to remain there for some time so that natural evaporation would concentrate the sugars (AP, RS, CW). The gummy sap was also used to plaster hair in place (RS).

Pinus albicaulis Engelm. — (Whitebark pine)

The seeds were eaten (RD), and presumably were prepared as were the seeds of *Pinus monticola*.

Pinus contorta Dougl. — (Lodgepole pine)

qweqweliť (PB, AP, AV, CW)

A medicine for burns was made from this pine. The resin was heated in a can until it turned black. One part of bone marrow was added to four parts of heated resin and mixed until no longer sticky. This was then molded into flat cakes and placed on burns (PB).

A mixture of axle grease, Climax Chewing Tobacco and resin was applied to boils (PB). The pitch was chewed like gum. The sap and cambium from the peeled bark were eaten, though in small

quantities as too much was thought to cause a bellyache. And the preferred tepee poles were fashioned from the slender trunks of this tree (AP, RS, CW).

Pinus monticola Dougl. — (White pine)

Green cones were put into a fire, removed after they had opened, and the roasted seeds eaten (RS).

Pinus ponderosa Dougl. — (Ponderosa pine)

sa?atkwlshp (Ad, PB, LP, JP, AV, CW)

Ponderosa pine had several medicinal uses. The warmed resin was placed on boils and a leaf of *Berberis repens* was placed over it until it broke (Ad). For dandruff, the pointed ends of the needles were jabbed into the scalp (MSS). The heated needles were placed on the abdomen of expectant mothers to help deliver the placenta (T-H). The pitch, heated and mixed with melted animal tallow, was applied with a piece of canvas for rheumatism and backache (RS).

The sap from ponderosa was preferred more than any other conifer. The bark was peeled in late April or early May when the sap was running. An incision made with a knife or axe prior to peeling was made to test the flow and sweetness of the sap. The rib bone of a buffalo or elk was used to peel the bark, as its natural flexibility and curvature facilitated its being worked under the bark. Once removed, the bark was scraped on the inside to remove the edible cambium and sap (RS).

The seeds were also eaten; they were prepared as were those of *Pinus monticola* (RS).

Pseudotsuga menziesii (Mirbel) Franco — (Douglas fir)

cqelshp (PB, AV)

A tea made from the needles was drunk for colds (RS). The rotten wood was used to smoke hides (AV).

TAXACEAE

Taxus brevifolia Nutt. — (Western yew)

ckwńcha (PB, LP) 'bow-wood'

The wood was used to make bows (PB, RD). Boiled sinew or muscle was used to varnish the well-seasoned wood to waterproof it and to prevent it from warping (PB).

ANGIOSPERMAE

Monocotyledonae

CYPERACEAE

Scirpus acutus Muhl. — (Bulrush)
tkwtiń (PB)

The stems were used for tying tents together or for braiding mats or rugs (RD).

GRAMINEAE

Elymus cinereus Scribn. & Merr. — (Ryegrass)
pspsnewlsh (PB); pa?pa?a
(LP)

Young Indian boys once placed hawthorn points on these shoots; they were used as play spears to inflict pain on one another in preparation for warfare: (PB).

Hierochloe odorata (L.) Beauv. — (Sweetgrass)
sxsesestiye?e (Ad, PB, AP,
AV, CW)

The aromatic properties of sweetgrass were well known to the Flatheads. The blades were braided into three ply ropes and placed in suitcases with clothes to give them fragrance (AP, RS, CW); or the aroma was imparted to clothes by burning sweetgrass beneath them (RS). It was believed that this treatment would keep bugs away (AP, C W). Sweetgrass was also burned on stove tops as incense (Ad, AV).

An infusion of sweetgrass was drunk for colds, fevers (Ad, AV) and to alleviate sharp pains inside (PB). It was also mixed with the seeds of *Thalictrum occidentale* and made into a tea drunk for colds (RS).

LILIACEAE

Allium cernuum Roth — (Nodding onion)

qwliwye?e (PB, AP, MSS, AV, CW)

The bulbs of this common onion were frequently eaten. They were eaten raw or used for flavoring soups and meats, and apparently were not kept for winter use (Ad, RD, AP, JP, RS, CW).

Allium douglasii Hook. — (Douglas onion)

sehch (Ad)

These mild and sweet onions were known only from the Hot Springs area of the Flathead Indian Reservation. They were eaten fresh or were dried, though they didn't keep very long; they were sometimes eaten with *Alectoria* (RD).

Brodiaea douglasii Wats. — (Brodiaea)

silus (PB)

It was not clear that this species was eaten. PB believed the bulb edible, but AV thought it poisonous.

Camassia quamash (Pursh) Greene — (Camas)

Uncooked: sxwe?li (Ad, LP, AP, JP, AV, CW)

Cooked: ?itxwe?e (Ad, JP, AP, AV, CW)

After bitterroot, camas was the most important food plant to the Flathead Indians. RD claimed that the Bigsam family consumed about 8 gallons of dried bulbs each year, though in earlier times a greater quantity was certainly consumed.

Camas bulbs were normally gathered just after the plant bloomed (RS, AV), from late June to early August, depending upon the elevation, and were found in moist meadows throughout the Northwest. Flatheads mostly gathered their camas from Camas Prairie (AP, JP, RS, CW), Evaro Hill (JP), parts of the Bitterroot Valley (JP, RS), in the vicinity of Seeley Lake (RS), at Potomac (JP), in the Lower Jocko Canyon (Malouf, 1971), as well as several other sites. The bulbs found in Camas Prairie were

noted for their sweetness, but were smaller than those found elsewhere (RS).

Camas bulbs were typically baked in a fire pit, which measured approximately one and one half feet deep by several feet wide. Rocks were placed on the burning wood, and after becoming thoroughly heated, were in turn covered by layers of various types of leafy vegetation, including ferns, grass, birch (*Betula*) branches with leaves intact, geranium (*Geranium*) tops, skunk cabbage (*Lysichitum americanum* Hulten & St. John) leaves, lupine (*Lupinus*), black tree lichen (*Alectoria*), willow (*Salix*), and bark from various kinds of trees. Cloth, canvas or burlap bags have been used in recent times in place of natural vegetation. If the vegetation was not moist, then water was poured on the leaves to produce a steam. This can also be done by pouring water down a hole made by leaving a stick in the pit and then removing it after the dirt had been spread on top. A fire was kindled on top of the dirt, and in one to three days the camas was ready to eat (AP, JP, RS, AV, CW).

The cooked camas, dark in color and sweet in taste, could be eaten immediately, dried and stored for future use, ground up with a stone pestle, or more recently ground with a meat grinder and made into small cakes. Flour, cream and sugar in recent times have been added (AP, JP, RS, AV, CW). Another dish was made by boiling camas down to make a syrup to which was added flour, or a sweet tasting beverage (RS).

Many researchers have speculated that a chemical change takes place during the cooking process of camas. Chestnut (1902) reported "while raw, the substance of the bulbs is crisp, white and very mucilaginous, but almost tasteless; when cooked, however, they are remarkably sweet, the long baking having evidently converted the mucilaginous substance into sugar." Konlande and Robinson (1972) did chemical analyses of the bulbs before and after cooking. Raw camas was found to contain 0.5–1.1% reducing sugar, while cooked camas was found to have 42.9% reducing sugar on a dry-weight basis.

Erythronium grandiflorum Pursh — (Glacier lily)
maxe?e (PB, JP)

The bulbs were recognized as being edible (PB, JP), though they were apparently not used very often.

Fritillaria pudica (Pursh) Spreng. — (Yellowbells)
qawxe?e (PB, JP, AV, CW)

The corms were collected in May at about the same time as bitterroot, and were washed and often eaten with it (RD, AP, JP, AV, CW).

Veratrum viride Ait. — (Hellebore)
steso?o (AP, JP, AV, CW): the name pertains to "sneeze"

The root was employed as a decongestant. Powder from the dried roots was sniffed into the nose, the resulting sneezing clearing up the nasal passages (AP, RS, AV, CW). As this medicine had a powerful reaction, it was not given to children (AV).

Xerophyllum tenax (Pursh) Nutt. — (Beargrass)
selchestiye? (PB, AP, AV, CW): pertains to bad or sore

The roots were boiled to make a decoction which was applied to the scalp; it was thought to act as a hair restorer (RD).

Zygadenus elegans Pursh — (Death camas)
i?westeń (PB, AP, AV, CW)

The bulbs were recognized as poisonous and were avoided (PB, RD, AV).

ORCHIDACEAE

Goodyera oblongifolia Raf. — (Rattlesnake-plantain)
nche?eńs (PB, AP, AV, CW):
"to pry open or apart"

The epidermal layer of the leaf was peeled off; the leaf was then plastered on burns, cuts, boils and sores (PB, RD, AP, RS, R-H, AV, CW). It acted to draw the pus out (PB).

TYPHACEAE

Typha latifolia L. — (Cat-tail)

Leaves: *pisishp* (PB, AP, AV, CW): pertains to scrap

Inflorescence: *sxestqe* (PB): 'good head'

The leaves were used for weaving baskets for meat and fish, and for making mats for sweathouses (AP, CW).

Dicotyledonae

ACERACEAE

Acer glabrum Torr. — (Mountain maple)

sxutlula (PB, LP, AP, CW)

The branches were used to make arrow shafts, pipestems, and as framework in sweathouses (PB).

ANACARDIACEAE

Rhus glabra L. — (Smooth sumac)

An infusion of the leaves and branches was drunk for tuberculosis. The patient in this treatment could not use salt or sugar as it was believed to make him cough (RS). The fruit was known for its laxative properties (RS).

ASCLEPIADACEAE

Asclepias speciosa Torr. — (Showy milkweed)

senelshqew (Ad)

The milky sap was dried and used like chewing gum (Ad). The roots were either eaten fresh or were dried, pulverized, and made into a tea; this was taken for stomach ache (RD).

BERBERIDACEAE

Berberis repens Lindl. — (Mahonia)

Plant: *sceselshp* (PB)

Fruit: *scals* (Ad, PB, AP, JP, CW)

RS claimed that the fruit was never used for food until sugar was made available in recent times. RD claimed that they were eaten fresh when ripe, however. The fruits could also be pounded and cooked into a jam (RD, AV), though much sugar was needed (AV). Dried, the fruit was saved for future use (RD).

As a medicine, the roots were cleaned, chewed or crushed, and placed on cuts with a clean cloth; this was changed three times a day. In about three days the cut was reputedly healed (PB).

A decoction made from the roots had several uses. It was drunk as a tea to alleviate coughing (AP, CW), to facilitate the delivery of the placenta of pregnant women, for venereal diseases, as a contraceptive (RS), and for rheumatism (AP, CW); it was also used as an eyewash (RD).

BETULACEAE

Alnus incana (L.) Moench — (Alder)

čhichteńe (PB, MSS, AV)

An infusion of the bark was employed to dye moccasins yellow (MSS, AV), feathers reddish brown (PB), and human hair red (RS).

Betula occidentalis Hook — (Birch)

sićeqenelshp (AP, AV, CW)

Betula papyrifera Marsh — (Paper birch)

qwlshnalqw (AP, AV, CW)

The sap was drunk as a beverage (PB, RD), it was collected from hollowed-out cavities in trunks (PB).

BORAGINACEAE

Lithospermum ruderale Dougl. — (Stoneseed)

si?icqen (PB): pertains to head

An infusion from either the fresh or dried roots was drunk for pleurisy and similar ailments (RD), while the infusion of the foilage was drunk for diarrhea (RS).

CACTACEAE

Opuntia polyacantha Haw — (Prickly-pear cactus)
sxweyene?e (PB, AP, JP, CW):
'sharp ear'

The stems were burned to remove the spines, then were washed and boiled; the resulting infusion was drunk for diarrhea (Ad). The crushed stems were placed directly on backaches (AP, CW), presumably after the spines had been removed.

CAPRIFOLIACEAE

Lonicera ciliosa (Pursh) DC — (Orange honeysuckle)

The plant was boiled to make a shampoo; it reputedly made hair grow longer (RS).

Lonicera involucrata (Rich.) Banks — (Bearberry)

The fruits were eaten to expel worms (Ad) or to act as a powerful laxative (RS).

Sambucus cerulea Raf. and **S. racemosa** L. — (Elderberry)

Plant: ćkwik-
alkshkw (PB,
AP, CW)

Fruit: ćkwikw
(PB, AP, AV,
CW)

An infusion of the bark was drunk by women to help deliver the placenta (PB). A flute was made from the stems (Ad, PB, RD). RD reported that the use of elderberry came only recently when sugar became available. For immediate consumption, the fruits were boiled and eaten (RS), for later use they were boiled and sun dried (RS, AV) or were canned or made into a jam (AV).

Symphoricarpos albus (L.) Blake — (Snowberry)

Plant: stemtemnýa (PB,
AP, AV, CW): pertains to
corpse

Fruit: stemtemnyalshq
(PB)

Wood: stemtemnyalshkw
(PB)

Leaves: stemtemnyelshp
(PB)

The fruit or leaves were crushed and applied to wet sores (AV), chapped or injured skin (RD), or to scabs of cuts and burns to promote healing with no scarring (RS). An eyewash was made from this species and *Rosa* sp. mixed together. If one poked his eye when hunting, the fruit was chewed and the juice placed into the eye; at first the eye tightened up, but soon felt better (PB).

CELASTRACEAE

Pachistima myrsinites (Pursh) Raf. — (Mountain lover)

An infusion of the roots was drunk for syphilis (PB).

CHENOPODIACEAE

Chenopodium sp. — (Lamb's quarters)

Young plants were cooked as potherbs (RS).

COMPOSITAE

Achillea millefolium L. — (Yarrow)

nkwkwa (Ad, PB, AP, JP, MSS, AV,
CW)

The leaves were mashed by chewing or by pulverizing in water, and then wound around cuts, bad bruises, and open wounds to stop bleeding and to act as a disinfectant (Ad, PB, RD, AP, MSS, AV, CW). The leaves and stems were boiled to make a bitter tea taken for colds (RD, RS). For toothache, the leaves were compressed on the particular tooth causing the pain (AP, CW). An infusion of the leaves was employed to wash aching backs and legs (Ad). The flower heads were rubbed in armpits as a deodorant (RS, AV).

Artemisia dracunculus L. — (Sage)

Swollen feet and legs were treated by placing them into the the hot infusion of this plant and by rubbing the boiled plant over the affected areas (Ad).

Artemisia ludoviciana Nutt. — (Prairie sage)

qepqeppte (Ad, PB, AV)

Several uses were made of this plant: a decoction made from the leaves was used externally to wash bruises (PB); was placed in bath water along with a similar decoction from *Rosa woodsii* and used for itchiness (Ad); or was drunk as a bitter, strong-tasting tea for colds (RS) or the decoction was used to wash areas affected with poison ivy (AD).

The leaves of this sage and that of *Pseudotsuga menziesii* were placed in sweathouses as incense (Ad).

Hides were rubbed with the foilage of this plant before they were soaked; apparently this treatment prevented hides from souring (RS).

Artemisia tridentata Nutt. — (big sagebrush)

pu'punelshp (PB, LP, AV, CW):
'stink plant'

An unfusion of this sage was drunk as a remedy for colds and pneumonia (RS).

Aster conspicuus Lindl. — (Showy aster)

An unfusion of the roots was drunk in the treatment of gonorrhea (PB).

Balsamorhiza sagittata (Pursh) Nutt. — (Arrowleaf balsam-root)

Plant: mtchuwé (Ad, PB, AP, JP, MSS, AV, CW)

Root: taeqwu (PB, AV)

The leaves were used as a poultice for swellings (MSS) or burns (AP, CW). An infusion of the roots was drunk for tuberculosis, whooping cough, to increase urinary flow, or as a physic (JP). The tough, woody roots were made palatable by baking in a fire pit for at least three days (RS). And the flowering stems were peeled and eaten raw (Ad, AP, JP, MSS, RS, CW) or were cooked as a green (Ad).

Cirsium spp. — (Thistle)

Edible kind: *ceqciq* (PB, MSS, AV): 'prickly'

Inedible kind: *sqeltemxwa* (Ad, AV): 'its a kind of man'

The young stems were peeled and eaten raw (Ad, RD, AV). Two species were recognized, one considered edible and the other not. Years ago there was a taboo against picking too much thistle, as it was believed that it might become exterminated (PB). The roots were peeled and baked in a fire pit for two to three hours; they were not dried for later use (RS).

Grindelia squarrosa (Pursh) Dunal — (Gumweed)

telshisqa (PB, AP, AV, CW): 'it sticks to horses' hooves'

An infusion of the stems and leaves was drunk for colds, pneumonia, fever, whooping cough, tuberculosis, or just to perk one up (Ad, PB, AP, RS, CW). The sticky flower heads were rubbed on sore horses' hooves; it was believed to toughen them (RS, AV).

Matricaria matricarioides (Less) Porter — (Pineapple weed)

ncelceltxwqin (Ad, PB, AP, AV, CW): 'clustered heads'

An infusion of the entire plant was drunk for colds (Ad, AP, AV, CW), fevers (AP, CW), diarrhea (PB), upset stomach (Ad, PB), and by women at childbirth to give them energy and to build up their blood (RD) and to help deliver the placenta (RS). This tea was also blended with *Letharia vulpina* for the preceding medication, and was also drunk by young girls having menstrual cramps (RS).

The leaves were dried, powdered and sprinkled over fresh meat or fruit to keep bugs off, and sometimes the entire plant was used in alternate layers in *parfleches* with meat or berries (PB, RS).

Tanacetum vulgare L. — (Tansy)

The crushed leaves were used to poultice burns (RS).

CORNACEAE

Cornus stolonifera Michx. — (Red-osier dogwood)

Plant: schtxwe (AP, AV, CW)

Fruit: stechcxw (PB, AP, AV, CW)

The fruit, though apparently bitter, was eaten raw or was mixed with serviceberries (RD, AP, AV, CW). The branches were used in the construction of sweathouses (RD), and the inner bark was dried and smoked with tobacco (AP, AV, CW).

CRUCIFERAE

Rorippa nasturtium-aquaticum (L.) Schinz & Thell. —
(Watercress)

senkwa?letkw (AP, AV, CW):
'it's growing in the water'

Watercress was occasionally cooked as a potherb (RS, AV); it was also eaten raw (RS).

ELAEAGNACEAE

Shepherdia canadensis (L.) Nutt. — (Buffalo-berry)

Plant: sxusemnaishkw
(PB, AP, CW): 'foam
berry plant'

Fruit: sxwusem (Ad, PB,
LP, JP, AP, AV, CW):
'foam berry'

"Foam berries," gathered in the middle of August, were placed in a bowl with water and beaten until foamy, and the resulting frothy dish was then eaten (Ad, AP, CW). It was bitter tasting, but was made more tasty by adding sugar (AV). The fruit was dried and saved for winter use (Ad, RS, AP, JP, AV, CW), but in recent times freezers have been used to preserve them (AP, CW). An eyewash was made by boiling the debarked branches (PB, AP, AV, CW).

ERICACEAE

- Arctostaphylos uva-ursi** (L.) Spreng. — (Kinnikinnick)
Plant: skwlselshp (PB, AP, JP, AV, CW): 'red plant'
Fruit: skwulis (PB, LP, AP, AV, CW): 'red?'

The fruit was eaten raw (RS), fried and eaten (RS, AV), or boiled with sugar and made into a broth (AP, CW). The dried berries were not dried and stored since other berries could have been gathered from the shrub at anytime during the winter, thus serving as a hedge against starvation (RS).

The powder from the pulverized fruit was sprinkled on liver as a condiment; it could also be mixed with lard for eating (RS).

The powder from the pulverized leaves was used on burns to help promote rapid healing (AP, RS, CW). A tea made from the leaves was drunk for colds and coughs (AP, CW). For earaches, smoke from the leaves was inhaled from a pipe and then blown into the aching ear with the detached pipestem (RS).

The leaves were dried in an oven or sweathouse (JP), and mixed with tobacco for smoking (Ad, PB, RD, AP, JP, RS, AV, CW). It was also smoked with the dried bark of red willow (probably *Cornus stolonifera*), or the dried roots of *Veratrum viride* or *Osmorhiza occidentale*.

- Chimaphila umbellata** (L.) Bart. — (Prince's pine)
schx̄elx̄elpu (Ad, PB, JP):
'eye brightener'

A decoction of the leaves was employed as an eyewash for sore eyes, especially due to heat, smoke, or perspiration (Ad, PB, JP). The leaves, after drying in a sweathouse, were smoked (PB).

- Ledum glandulosum** Nutt. — (Labrador Tea)
scht̄x̄we liti (PB, AP, AV, CW):
'mountain tea'

An infusion of the leaves and twigs was employed as an eye-wash (Ad).

Pterospora andromedea Nutt. — (Pinedrops)
senchelep tapemis (Ad, PB):
'coyote's arrow'

A whitish growth (fungus?) found on the roots was used for toothache. It was put in the caries to alleviate the pain (PB). An infusion of the plant was mixed with several other species and used as a hair restorer. It was also boiled with *Clematis columbiana* to make a shampoo (RS).

Vaccinium globulare Tydb. — (Huckleberry)
Plant: steshlshqwlshp (PB, AP, CW): 'sweet plant'
Fruit: stsha (PB, LP, AP, AV, CW)

Huckleberries were the most important fruit gathered by the Flathead (RS). RD suggested that they were mostly eaten in season, but some were sun dried and saved for winter use (RS). In winter the dried huckleberries were boiled and eaten with various roots. They were not mixed with pemmican or meat (RS).

An infusion of the roots or stems was drunk for heart trouble (PB, AV); an infusion of the leaves was drunk for kidney trouble (AP, CW); and a decoction of the roots was applied to rheumatic and arthritic limbs (AV).

Vaccinium scoparium Leigberg — (Whortleberry)
Plant: siptkwalshkw (PB)
Fruit: sipt (PB, AP, AV, CW)

Although these small fruits were eaten fresh when found, they were seldom utilized (AP, RS, AV, CW).

GERANIACEAE

Geranium viscosissimum F. & M. — (Sticky geranium)
teteqenelshp (PB)

A decoction of the roots was rubbed on horses' sores, cuts, rope burns, and was apparently good for keeping wood ticks and flies off (Ad, AV, CW).

A horse's nose was held over a burning container of the shavings from the dried root mixed with charcoal; this helped to cure distemper, pneumonia, coughing, and running nose (RS, AV).

There seemed to be confusion regarding the correct identity of chechi. RS claimed it to be a species of *Geranium*, while Carlson (1973) claimed it to be a species of *Lomatium*. Some Flatheads claimed *Lomatium triternatum* var. *anomalum* to be the plant.

PB claimed the baked roots of *Geranium* were used as a poultice on wounds, cuts, or swellings. The scum resulting from boiling the roots was used externally for wart treatment, or the milky sap was directly applied from a fresh plant (RS, AV). The mashed root placed inside a buckskin or a piece of cloth of tightly bound around a woman's painful breast or for "milk fever" (RS).

GROSSULARIACEAE

Ribes spp. — (Currants and gooseberries)

Currants (without thorns): stemtu (AP, CW)

Gooseberries (with thorns): nte (PB, AP, AV, CW)

The fruits were eaten fresh, cooked, or sometimes were dried for future use (PB, RD, AP, RS, CW).

HYDRANGEACEAE

Philadelphus lewisii Pursh — (Mockorange)

waxelshp (PB, AP, JP, AV, CW)

Pipestems (RD, AV), bows (JP), combs (AV), and arrow shafts (AV) were made from the branches.

LABIATAE

Mentha arvensis L. — (Mint)

xenxene (Ad, PB, AP, AV, CW): pertains to 'cool'

An infusion of the plant was drunk for colds (RS, T-H), coughs (T-H), and if mixed with *Juniperus scopulorum* boughs, for fevers (Ad). The green leaves were also packed around aching

teeth (RS). The crumbled and powdered leaves were employed as a flavoring ingredient in the absence of salt and pepper (RS).

The leaves were dried, powdered and sprinkled over fresh meat or fruit to keep insects off (PB, RS). The entire plant was commonly placed in houses for its pleasing aroma (PB, RS), on the floors of sweatshouses (RD), or in suitcases with clothes (PB, RS).

Monarda fistulosa L. — (Horsemint)

tituwi (Ad, PB, JP, AV, CW): 'little boys'

An infusion of the plant was drunk for colds (Ad, JP, TS, AV), fevers (Ad, PB, AP, RS, AV, CW), coughs (AP, RS, CW), to increase milk flow for nursing mothers (Ad), and as a general tonic (T-H).

The leaves were packed around aching teeth to bring relief (AP, CW). Dried bundles of plants were hung in rooms, presumably its pleasant odor brought relief to people having colds (RD). The dried and powdered leaves were sprinkled over fresh meat or fruit to keep insects off (PB, RS).

Nepeta cataria L. — (Catnip)

An infusion of the stems and leaves was drunk to induce perspiration to break fever (RS).

LEGUMINOSAE

Lupinus sp. — (Lupine)

nqenaqete (JP, AV): 'stink plant'; teteqenelp (PB): 'flattened'

PB claimed this plant to be poisonous, though JP stated that sheep were fond of it.

NYMPHACEAE

Nuphar variegatum Engelm. — (Pond lily)

kwenemlshp (Ad, PB, MSS):
pertains to 'grab' and 'plant'

A medicinal tea made from the roots was drunk for venereal disease; it reputedly acted to open the urinary tract. The crushed roots were also applied to the affected parts (PB). This same

decoction was mixed with bathwater for rheumatism (Ad) or was applied to bruises (PB). A poultice made from the peeled, washed and baked roots was applied to infected sores (RS). The boiled and crushed roots were placed on deep cuts of horses (PB).

PLANTAGINACEAE

Plantago major L. — (Plantain)

nlshemlshemqe?ene?e (AP, AV, CW):
'bears' ears'

The leaves were variously used as a poultice for cuts and sores: the leaves were softened in hot water and put on sores (RS, AV); crushed and placed on infected cuts (PB); or crushed and mixed with sugar and placed on cuts (AP, CW). It was believed that the pus would be drawn out with this application (AP, RS, CW).

POLEMONIACEAE

Gilia aggregata (Pursh) Spreng. — (Gilia)

The dried plants and those of *Lomatium simplex* were placed in perfume bags; they were believed to give off a pleasant aroma (RD).

PORTULACACEAE

Claytonia lanceolata Pursh — (Springbeauty)

skweńkwi (PB, AV)

The larger roots were the first of the roots to be gathered by the Flathead; they were available in the middle of April (RS). They were washed and boiled for eating (JP, RS, AV).

Lewisia rediviva Pursh — (Bitterroot)

spetlem (Ad, PB, LP, AP, JP, AV,
CW)

An even greater quantity of bitterroot than camas was eaten (RD), possibly because of the widespread abundance and ease of collecting it. Flathead women dug bitterroot in early May. Before digging, the First Roots Ceremony was performed (see discussion following the listing of plants). Digging was done just before the plant began to bloom, as the epidermal layer of the root slipped

off more easily than if it had already bloomed. Once dug, the roots were peeled, washed, and dried in the sun. Sometimes the reddish inner core or stele which was believed to impart the bitter taste was removed, though sometimes it was left intact. In fact, some people actually preferred the smaller, more bitter tasting bitterroots of western Montana to the larger, blander varieties occurring farther west in the Nez Perce country of Idaho (JP, RS, AV). Bitterroots were once found in great quantities on the flats of what is now Missoula, Montana, the campus of the University of Montana, and the Bitterroot Valley (RS).

The common method of cooking bitterroot was steaming the roots for a few minutes on a lattice of small twigs above water in a kettle (AP, RS, CW). Dried bitterroots were boiled in water, sometimes with serviceberries or huckleberries (RS). A broth was also made by boiling the roots (AP, CW). Bitterroots were also sweetened with camas, but more recently sugar has been used (RS).

An infusion of the roots was drunk for heart trouble (RS, AV), pleurisy (RS), and by mothers to increase milk (PB, T-H, AV).

RANUNCULACEAE

Clematis columbiana (Nutt.) T. & G. — (Clematis)

The stems and leaves were boiled to make an infusion used as a hair restorer (RD, AV), or a shampoo (RS). A medicine made from this species and *C. ligusticifolia* was used for a type of itch and for sores, especially for around the neck (RD).

Clematis hirsutissima Pursh — (Sugarbowl)

An infusion of the entire plant was employed as an itch medicine; the affected areas were washed with the solution and rubbed with the boiled plant (RS, AV).

Clematis ligusticifolia Nutt. — (Clematis)

An infusion of the stems and leaves was employed as an eye-wash, though it apparently didn't work very well (Ad). It was also

used for itchiness and sores (RS, AV), or used as a hair restorer (RD).

Ranunculus glaberrimus Hook. — (Buttercup)
schiniyalmn (PB, AP, AV,
CW)

The plant was crushed and placed within a piece of canvas or buckskin and applied as a poultice for burn blisters and open running sores (RS, AV). PB, however, recognized it to be poisonous and cautioned against such usage.

Thalictrum occidentale Gray — (Meadowrue)
pxwcu (AV): pertains to 'smell'

The dried seeds were boiled to make a tea for colds, chills, and fevers (RS, AV). Sometimes *Hierochloe odorata* was boiled with the seeds to make a more effective medication (RS).

The dried seeds were chewed until pulverized and were rubbed on the hair and body as a perfume (RS).

RHAMNACEAE

Ceanothus velutinus Dougl. — (Buckbrush)
kwelit'chielshp (Ad, PB, AP,
AV, CW)

A salve made by mixing the dried and powdered leaves with lard or grease was applied to burns and sores (RD, RS). The leaves were also used alone as a poultice (AP, CW).

Rhamnus purshiana DC — (Cascara)
cheqwiqwisa (Ad): pertains to
'belch'

An infusion of the bark was drunk as a laxative (Ad, PB, AV). Some Flatheads believed that if the bark was whittled upward in making the tea, then it would act as an emetic, but if the bark was whittled in a downward fashion, then the medicine acted as a purgative (Ad, AV).

ROSACEAE

- Amelanchier alnifolia** Nutt. — (Serviceberry)
 Plant: stqe (PB, LP, AP, AV, CW); siyeye?, for a different variety
 Fruit: slshaq (PB, LP, AV)

Serviceberries constituted one of the most important foods of the Flathead Indians. Ripening in mid summer, they were normally sun dried and stored for future use (Ad, RS, AV). They were cooked with flour to make a gravy, or mixed with bitterroot, milk and sugar to make a tasty dish (Ad, AV). Some Indians preferred to mash the fruits and form small cakes to dry in the sun; powdered leaves of *Monarda fistulosa* and *Mentha arvensis* sprinkled over them acted to keep flies away (RS).

Serviceberry wood was used for lame horses. A sharpened stick was stuck deeply into the swollen ankle, whereafter blood and other serous matter drained out. The root of a yet unidentified plant was then used for medication (PB). The stems were employed in the manufacture of arrow shafts, though those of *Acer glabra* were preferred (PB).

- Crataegus columbiana** Howell — (Red hawthorn)
 Plant: stemqwpalqw (PB): pertains to 'round'; senchelshpa (PB): 'coyote's tree'
 Fruit: stemoqw (PB)

- Crataegus douglasii** Lindl. — (Black hawthorn)
 Plant: sxwe?sxwe?nchelshp (PB, AV): pertains to 'sharp'
 Fruit: sxwe?ne (PB, AV)

The berries were pounded or ground and eaten raw or were cooked, or they were made into small round cakes and sun dried for later eating. They were often mixed with other fruits, like chokecherries. They constituted an especially important fruit in years when the serviceberry crop was poor; they could be gathered in the winter months, as some fruits remain on the bush all through the winter (RD, RS).

Fragaria virginiana Duchesne — (Strawberry)

Plant: sencesheshtis (PB)

Fruit: qítqem (PB, AP, AV, CW)

The fruits were eaten only when fresh (AP, RS, AV, CW).

Geum triflorum Pursh — (Avens)

An infusion of the fresh or dried roots was drunk for chills (RD).

Prunus virginiana L. — (Chokecherry)

Plant: lshxlshxwalshkw (PB, AP, AV)

Fruit: lshxlsho (Ad, PB, LP, JP, AV, CW)

Chokecherries were the last fruits to be collected in late summer; in fact, freezing in early fall was believed to improve their taste and make them sweeter (RS).

Though sometimes eaten fresh (RS), chokecherries were usually prepared for later use. The individual chokecherries were pounded and pulverized with a pestle. Round cakes were made from the mashed fruit and placed in the sun to dry. These could be saved for winter use, in which case they would be soaked in water for eating (Ad, JP, RS). In recent times, meat grinders have been used to pulverize chokecherries (RS, AV). Chokecherries were often mixed with other fruits, such as those of *Berberis repens* and *Crataegus* spp.

An infusion of the bark and branches was drunk for diarrhea (PB, AP, CW). For intestinal worms, a tea made from the bark which was peeled downward was drunk; it acted as a purgative (if the bark was peeled upward, the medicine acted as an emetic) (RS).

A resin from the plant was warmed, strained, and when cool, used as eyedrops for sore eyes (PB, RS).

Rosa woodsii Lindl. — (Wild rose)

Plant: xweyé (PB): pertains to 'sharp'

Leaves: xweyelshp (PB)

Wood: xweypalschkw (PB, AP, AV)
Fruit: spiqalshqexwaye (AP, CW); se
nqe pu (AV): pertains to anal itch

Rosehips were apparently never utilized very extensively by the Flatheads, at least before the introduction of sugar, after which it was used to make jellies (RS). It may be that the hips were used especially during severe winters as they remain on the bush all winter. An infusion of the petals, the bark, or the roots was used for sore eyes caused by excessive exposure to the sun (PB, RD, AP, RS, CW).

Rubus idaeus L. — (Raspberry)

Plant: lleclalshkw (AP, CW)

Fruit: llac (PV, AP, AV, CW)

Wild raspberries were of small economic importance. They were normally eaten fresh, though they were occasionally dried for winter use (RS). An infusion of the stems and leaves was drunk for diarrhea (RS).

Rubus leucodermis Dougl. — (Black raspberry)

Fruit: mcukw (AP, CW)

The fruits were certainly eaten, but like those of *Rubus idaeus*, were probably of minor economic importance.

Rubus parviflorus Nutt. — (Thimbleberry)

Plant: pulpelqenelshp (PB)

Fruit: pulpelqen (PB, AP, CW):
pertains to 'easy' and 'head'

The fruits were eaten fresh (RD, AP, RS, CW); and probably were never gathered in sufficient quantity to store for winter eating.

Sorbus scopulina Greene — (Mountain ash)

smxe s'ilshis (PB): 'grizzly bear
food'; txwexwewe (AV, CW)

An infusion of the leaves and twigs was drunk for tuberculosis and coughs (PB, RD, AP, CW). An infusion of the fruit was drunk for vomiting of blood (RD), and eating the fruit was thought to alleviate tiredness, hunger, thirst and fatigue (PB).

RUBIACEAE

Galium boreale L. — (Bedstraw)

The seeds were considered edible, but were seldom utilized (RS).

SALICACEAE

Populus tremuloides Michx. — (Aspen)

mlmlte (PB, AP, AV, CW):
pertains to 'shimmering leaves'

A tea made from the bark was drunk for ruptures (RS, AV).

Populus trichocarpa T. & G. — (Black cottonwood)

Plant: mulsh (PB, AP, AV,
CW)

Cambium: cekwye (PB): per-
tains to 'shiny' or 'bright'

The sap from cottonwood was valued more than that of any other tree. Only the young trees were peeled, as the bark from the older trees was difficult to remove. The thin, transparent strips of cambium were removed in a similar manner as was the cambium of ponderosa pine and chewed for its sweet sap (RS).

The leaves were used either fresh or were dried and employed as a poultice to draw pus out of wounds (AV) or used on boils (RS). Young cottonwood branches, roots of *Rosa woodsii* and *Potentilla glandulosa* were boiled to make a tea drunk for syphilis (RD).

Salix spp. — (Willow)

Plant: qewqewpulsh (AV): pertains to 'habitual
mover'; ppu (PB, LP, AV)

Catkins: slshtitichi (AP, AV, CW): 'bitch dog'

The bark was employed in the treatment of cuts. In one medicinal preparation hot water was poured over the bark; the resulting solution was used to wash the wound, and the powder from the finely crushed bark was placed on the cut with a clean cloth; the bandage needed to be changed once a day; in two to four days the cut was healed (PB). The bark was also chewed and put on cuts and abrasions directly (RS, AV).

An eyewash was made from a species found near Arlee; the bark, leaves, or young stem tips were used (RD, AV). The bark of a different species was chewed for diarrhea, dysentery and summer flu (RD, AV).

Branches were used in the construction of sweathouses, baskets, etc. (RS, AV). Bark from a species found in the Black-foot valley was used to make rope used for horses (This could possibly be *Elaeagnus commutata*) (AV).

SAXIFRAGACEAE

Heuchera cylindrica Dougl. — (Alumroot)

cepcup (PB): pertains to 'sticky'

An infusion of the root was drunk for stomach ache and diarrhea, or the root was chewed directly for immediate results (PB, RS, T-H). Of all the plants known for stomach ache and diarrhea, this was recognized to be the best remedy (PB).

SCROPHULARIACEAE

Besseyia rubra (Dougl.) Rydb. — (Kitten-tails)

chechelshu (AV)

A strong tasting tea made from either the fresh or dried roots was drunk for colds (RS); it was also taken as a physic (RS, AV).

Castilleja sp. — (Indian paintbrush)

sccmelt sce?ekw si? lshis (PB): 'children's flower food'

Indian children sucked the nectar from the flower (PB, RD, JP).

Verbascum thapsis L. — (Mullein)

chxelkwasqis (PB, LP): 'train's seeds'

The plant was boiled to make a shampoo which lathers like soap. It was thought to turn hair darker (RS). The plant is so named for the fact that it was first observed by the Flatheads along railroad tracks, its origin due to seeds falling out of the train (PB).

UMBELLIFERAE

Cicuta douglasii (DC) Coult. & Rose — (Water hemlock)
?inixw (AP, AV, CW):
'poisonous'

The root was recognized as poisonous (AP, AV, CW).

Heracleum lanatum Michx. — (Cow-parsnip)
xwte (PB, AP, AV, CW)

The dried and matured hollow stems were employed to make elk whistles (PB, RD, AP, AV, CW). The dried or fresh roots were utilized as a poultice used on swellings, especially of the feet (RD). For food, the young stalks were peeled and eaten raw (RD, AP, RS, AV, CW).

Ligusticum canbyi Coult. & Rose — (Lovage)
xasxes (Ad, PB, LP, MSS, AV): pertains to
'good'

This medicine is still popular today. Its favorite application is for colds and sore throats: the dried roots can be chewed (JP, RS, T-H), and infusion of the roots can be drunk (JP, RS, T-H, AV), or the leaves are smoked with tobacco for relief (JP, RS, AV). An infusion of the roots is also drunk for fevers (MSS).

The root was once chewed and rubbed on a person's body for seizures. Cigarettes mixed with this plant were then smoked; this supposedly calmed the person (Ad).

Lomatium cous (Wats.) Coult. & Rose — (Biscuit-root)
pchlu (PB, JP, AP, AV, CW)

The root was dug after the plant bloomed in the spring (RS). They were peeled and eaten raw, boiled (RS, AV), or pounded into small cakes and dried in the sun (JP, RS). The dried bricks or biscuits could be stored for a long time and were often carried on long hikes or marches (JP).

Lomatium macrocarpum (Nutt.) Coult. & Rose — (Desert parsley)
chéchi
(PB, JP, AP, AV, CW)

The young, fresh roots are bitter-tasting, but if allowed to dry become more palatable. Older roots are generally too fibrous and stringy to eat (RD).

Osmorhiza occidentalis (Nutt.) Torr. — (Sweet cicely)
xwit (PB, AP, AV, CW)

An infusion of the roots was drunk for colds (AP, RS, CW), coughs and sore throats, or the root was chewed for similar results (PB).

Perideridia gairdneri (H. & A.) Math. — (Yampah)
stlukwm (Ad, PB, AP, AV, CW)

The roots were gathered in July when the flowers were well developed (AP, RS, AV, CW). They were washed and eaten fresh (RS, AV) or could be boiled, mashed and made into little round cakes, and dried and stored for winter use (Ad, RS, AV).

URTICACEAE

Urtica dioica L. — (Nettles)
cáaxelshp (PB, AP, AV, CW): 'sting leaf'

An infusion of the leaves was drunk for fits (apparently epilepsy), insanity, or temper tantrums. For rheumatism, feet were soaked in this infusion (RS). Nettles were also used to swat aching backs in the sweathouse (AP, CW).

VIOLACEAE

Viola sp. — (Violet)
msemsa? (PB, AV)

The roots were boiled into a tea and drunk for colds, flu, chills, and fevers (PB, T-H, RS, AV). A mild medicine, it was recommended for children (RS, AV). A poultice for mumps was made from the roots (PB).

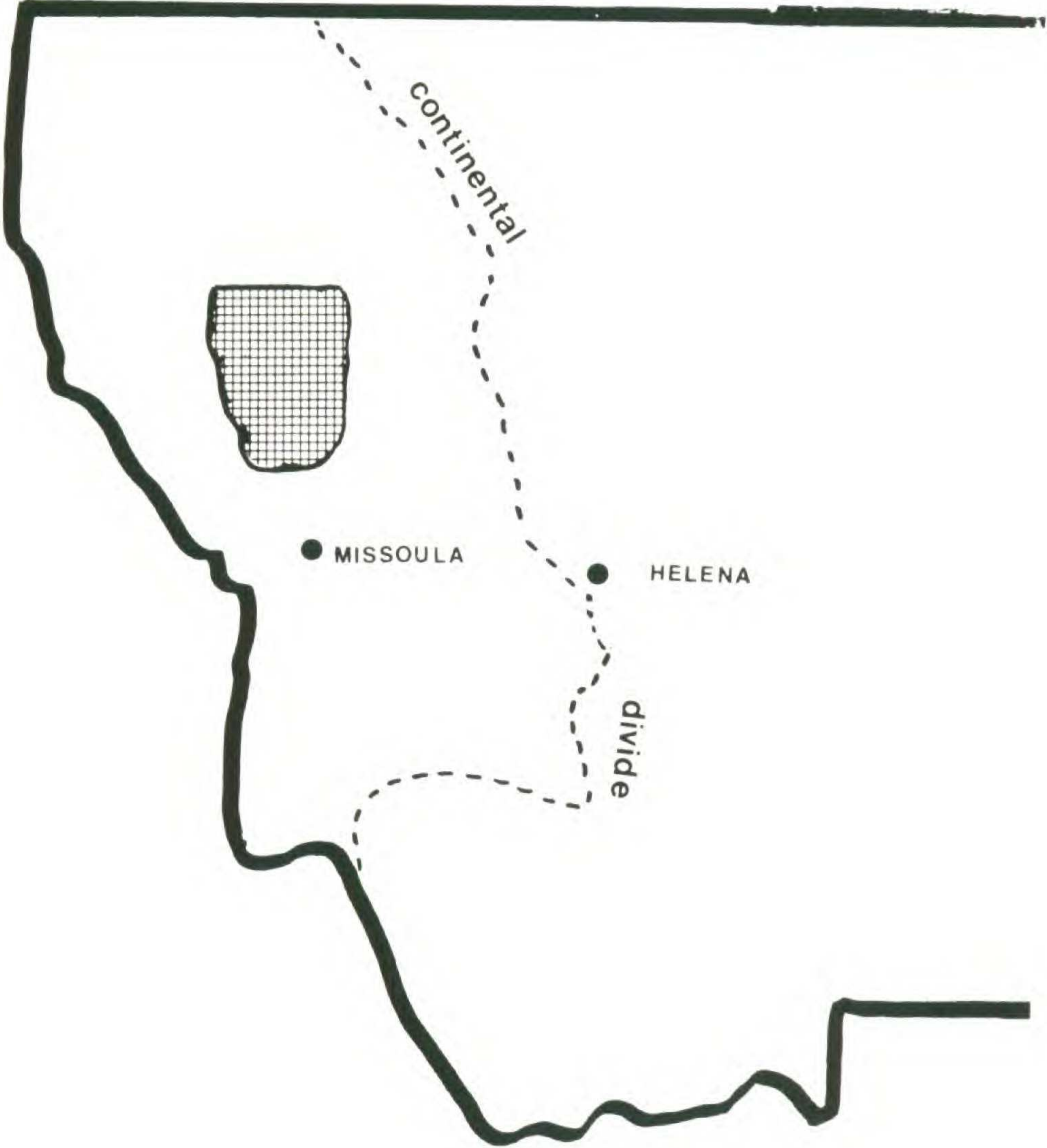
THE ROLE OF PLANTS IN THE CULTURE
OF THE FLATHEAD INDIANS
THE COLLECTION AND PREPARATION OF FOOD PLANTS

The Flathead food economy depended upon hunting, mostly of big game animals, fishing, and the collection of roots, berries and other food plants. As in most societies, the women were responsible for the collection and preparation of food plants, while the men did the hunting and fishing. When cooking camas, for example, men were forbidden to go near the cooking pits lest bad luck and famine overtake all (Turney-High, 1937). Murdock (1967) estimated that 40% of the Flathead diet came from hunting, 30% from fishing, and 30% from plants.

Roots and berries formed the most important kinds of vegetable foods. The most important plants furnishing berries included: serviceberries (*Amelanchier alnifolia*), huckleberries (*Vaccinium globulare*), and chokecherries (*Prunus virginiana*). Other berries of lesser importance included: kinnikinnick (*Arctostaphylos uva-ursi*), mahonia (*Berberis repens*), redosier dogwood (*Cornus stolonifera*), hawthorn (*Crataegus* spp.), strawberries (*Fragaria virginiana*), gooseberries and currants (*Ribes* spp.), rose hips (*Rosa woodsii*), raspberries (*Rubus ideaeus*, *R. leucodermis*, and *R. parviflorus*), elderberries (*Sambucus cerulea* and *S. racemosa*), buffalo-berries (*Shepherdia canadensis*), and whortleberry (*Vaccinium scoparium*). The most important root crops were camas (*Camassia quamash*), bitterroot (*Lewisia rediviva*), wild carrot (*Periderdia gairdneri*), and cous (*Lomatium cous*). Roots and bulbs of lesser importance included: wild onions (*Allium cernuum* and *A. douglasii*), balsamroot (*Balsamorhiza sagittata*), brodiaea (*Brodiaea douglasii*), thistle (*Cirsium* sp.), springbeauty (*Claytonia lanceolata*), glacier lily (*Erythronium grandiflorum*), yellowbell (*Fritillaria pudica*), dessert parsley (*Lomatium macrocarpum*), and cat-tail (*Typha latifolia*). The more important roots and berries were dried and stored for winter use, while those of lesser importance were more often eaten fresh, though in periods of food scarcity they were gathered in greater quantity.

Flathead women initiated the gathering season with the collection of bitterroot in early May. Before digging, the First Roots

FLATHEAD INDIAN RESERVATION



Ceremony was performed to insure an ample harvest of bitterroot as well as other plant foods. The gathering of food plants was coordinated with other subsistence activities. Teit (1930) summarized the annual Flathead food quest as follows: "In the springtime, digging certain roots, hunting and fishing on the nearer grounds; in early summer root digging and berrying, only a little hunting or root digging; in early fall (about September), the same occupations as in late summer; in late fall (October and November), root digging and hunting in the early part, and finally only hunting. In December they went into their camps and left them in March."

Flatheads usually gathered berries in cedar bark baskets, though sometimes bark from a young fir was used. These baskets measured about 18-20 inches by 8-10 inches in diameter and tapered from a round top to a pointed rectangular bottom. The seams were either sewn together with willow bark or were pierced and pinned together with small twigs, and then made waterproof with conifer pitch (Stubbs, 1966).

Teit (1930) claimed that in prehistoric times the Flatheads gathered roots in baskets, but after the introduction of the horse, roots were gathered in flat woven and often decorated containers which measured 2-3 feet long and 15-20 inches wide. They obtained these from the neighboring Nez Perce. Dried roots and berries were stored in rawhide bags (Stubbs, 1966).

Root crops were dug with digging sticks. The Flathead often used digging sticks of hawthorn or serviceberry with horn antler or wooden transverse handles. The points were fire-hardened and sharpened by burning and shaving or rubbing against rough stones. Wooden digging sticks proved impractical for camas which grows in heavy turf, in which case elk antler digging sticks were employed. These were probably similar to those used by the Kootenai which were about 15 inches long and contained the crotch of one prong which served as a handle. Wooden and elk horn antlers were replaced by iron digging sticks when the whites moved into the region (Malouf, 1971).

The Flatheads either boiled or baked their vegetal food. The hot pit method of baking is described in the section where camas is discussed. Turney-High (1937) described the method of boiling:

a hole one foot deep and wide was dug in the ground and lined with a permanent bag of bison skin. Stones heated red hot were placed into this container filled with water, to which the food was added for boiling. After the food was boiled the bag was removed and washed, and then hung to dry. Stubbs (1966) stated that wood boiling and utility pots were often used in permanent grounds. They made these by hollowing out large burls from pine, fir and larch tree trunks. Because these burls were pitchy they were resistant to decay. Food was boiled in them by the hot rock method. Left in the camps where they were made, wooden pots could be used on subsequent trips and lasted for many years.

The proportion of vegetal food used varied during the different periods of Flathead existence. With the introduction of the horse and the more extensive reliance on buffalo hunting east of the continental divide, the digging of roots and gathering of berries became of lesser importance as these tasks could not always be done while hunting buffalo. Though some of the old people remained in the camps in the Rocky Mountains and still collected roots and berries, there was a general tendency to neglect these foods. With the near extinction of the buffalo in the 1880s, the Flatheads depended more significantly on vegetal foods again (Teit, 1930).

Flatheads used other kinds of plants for food, though in lesser quantities. Pines (*Pinus albicaulis*, *P. monticola*, and *P. ponderosa*) furnished edible seeds. The leafy parts of various plants (*Balsamorhiza sagittata*, *Chenopodium* sp., *Heracleum lanatum*, *Rorripa nasturtium-aquaticum*, and *Cirsium* spp.) were eaten as greens. Gums, saps, and inner barks were collected from various trees for eating (*Larix occidentalis*, *Pinus contorta*, *P. ponderosa*, and *Populus trichocarpa*). Various mushrooms (such as species of *Armillaria*, *Collybia*, *Russula*, and *Lycoperdon*) were eaten. The black tree moss (*Alectoria*) was fire baked with camas. Nodding onion (*Allium cernuum*), kinnikinnick (*Arctostaphylos uva-ursi*) and mint (*Mentha arvensis*) furnished condiments, while beverages were made from birch (*Betula occidentalis*), camas (*Camassia quamash*), mint (*Mentha arvensis*), and horse-mint (*Monarda fistulosa*).

PLANTS AND MEDICINE

As with most Indians of North America, the Flatheads had two kinds of doctors: shamans and herb doctors. Shamans did not normally use plants to cure, but relied on magic and ritual to treat diseases stemming from supernatural causes; outward and visible shamanistic acts of curing included blowing and sucking noxious materials from the place affected, songs, etc. They were often called in when the naturalistic treatment of herb doctors did not work, and their work was considered more supplementary than antagonistic to that of the herb doctors. Some even learned to use herbal remedies (Turney-High, 1937).

For diseases stemming from naturalistic causes, doctors well-versed in herbal lore were called in. These were just as often women as men. In fact most everyone in the tribe was aware of the more common medicinal plants, and many were household remedies (Turney-High, 1937).

Flatheads used at least 67 species of plants for medicinal purposes. Plant medicines were administered in several ways, depending upon the illness. For cuts, burns, sores and other external problems, poultices from various plants and plant parts were employed. For fevers, colds, stomach aches, diarrhea and other internal problems, infusions made by boiling the plants or parts of plants were drunk.

RELIGION AND BELIEFS ABOUT PLANTS

As with most Indian tribes, the Flatheads had an animistic viewpoint of the world. Spirit beings were very important; that these were generally animals and not plants is probably because animals personified spirits more readily than plants. None-the-less, because plants figured significantly in the economics of living, especially food and medicine, they did enter into their religious and mythological world.

The spring search for food was initiated with the First Roots Ceremony, a ritual common throughout the plateau region. It was necessary before any woman was allowed to search for food. To fail to do so, it was believed, resulted in a scarcity of roots. It was a tribal affair, and when the tribe still had access to the

Bitterroot Valley, gathered at the "Dancing Place" just north of the present town of Hamilton, Montana. The ceremony was a prayer for the abundance of the two most important economic plants, camas and bitterroot. When all of the participants were assembled, the High Chief appointed 2 mature women to act as leaders and a number of other women as assistants. The group then went to a site where bitterroot was found. The senior woman raised her arm to the sun and prayed for success, security, good health, etc. Then the same prayer was made to the earth. Next the digging began, and when enough bitterroot had been dug, the women took the roots to the Chief's lodge where it was cooked. When the meal was ready the Chief prayed to the sun, then to the earth, and finally the food was distributed to the assembled people. Afterwards the Thanksgiving Dance started. With this sacred ceremony completed, anybody was free to collect bitterroot (Turney-High, 1937).

The camas dance was part of the Midwinter Festival which began at the New Year. It had a magical-religious motivation, being primarily a prayer in the dead of winter for an adequate supply of vegetable food in the spring. It was followed by the Blue Jay Dance. They were a favorite time for marrying and consisted of riotous joking and playing (Turney-High, 1937).

Medicine and religion were inseparable. This was certainly true with a Flathead method of discovering new medicines by means of dreams, though it is not denied that many medicines were borrowed and traded from other groups. Beaverhead (1973) stated that when a person was known to be sick a certain medicine man was called to doctor the patient. If the medicine did not seem to work then another medicine person was called in to cure the patient. During the night the medicine person would dream and be told to use a certain kind of plant. Then the next day he would find that plant and take it to the patient to use as a remedy. As a result the medicine would become well known to all members of the tribe.

Flathead Indians were required to placate certain spirits when they collected plants. Vanderburg (1973) claimed that when the huckleberry was collected for its medicinal use as a heart medicine

it was required that the collector make a payment to the plant in the form of beads, etc. and to talk to the plant too. Many medicines required similar payment.

Coyote, leading culture hero and trickster of the Flatheads, figured in several plant uses and beliefs. Once Coyote was bound in ropes, for example, and nothing could be found to free him until a leafblade of a species of *Carex* was used to cut the rope. The dried stalks of *Pterosperma andromedeae* were thought to be "Coyotes' arrows." Rosehips were often called "Coyotes' Berries" or "place of itching in the anus" because Coyote once ate the fruits and as a result his anus began to itch; he scratched so much that he eventually bled to death.

PLANTS AND TECHNOLOGY

The Flatheads made many of their everyday items from plants. For tepee poles they used young trunks of lodgepole pine (*Pinus contorta*). Willow (*Salix* spp.) and red-osier dogwood (*Cornus stolonifera*) were used in the construction of sweathouses. Wood for bows came from shrubs like mockorange (*Philadelphus lewisii*) and yet (*Taxus brevifolia*), while the wood for arrows was fashioned from branches of maple (*Acer glabrum*), serviceberry (*Amelanchier alnifolia*), and mockorange (*Philadelphus lewisii*). Whistles were fashioned from the stems of cow-parsnip (*Heraclium lanatum*) and elderberry (*Sambucus* spp.). Baskets and bags were made from the bark of cedar (*Thuja plicata*). And Flatheads made dyes from alder (*Alnus incana*) and lichen (*Letharia vulpina*).

APPENDIX I.

INDEX TO SCIENTIFIC NAMES

Abies grandis (Dougl.) Forbes
A. lasiocarpa (Hook.) Nutt.
Acer glabrum Torr.
Achillea millefolium L.
Alectoria sp.
Allium cernuum Roth
A. douglasii Hook.

Alnus incana (L.) Moench
Amelanchier alnifolia Nutt.
Arctostaphylos uva-ursi (L.) Spreng.
Armillaria sp.
Artemesia dracunculus L.
A. ludoviciana Nutt.
A. tridentata Nutt.
Asclepias speciosa Torr.
Aster conspicuus Lindl.
Balsamorhiza sagittata (Pursh) Nutt.
Berberis repens Lindl.
Besseyia rubra (Dougl.) Rydb.
Betula occidentalis Hook.
B. papyrifera Marsh.
Brodiaea douglasii Wats.
Camassia quamash (Pursh) Greene
Castilleja sp.
Ceanothus velutinus Dougl.
Chenopodium sp.
Chimaphyla umbellata (L.) Bart
Cicuta douglasii (DC) Coult. & Rose
Cirsium spp.
Claopodium
Claytonia lanceolata Pursh
Clematis columbiana (Nutt.) T. & G.
C. hirsutissima Pursh
C. ligusticifolia Nutt.
Collybia sp.
Cornus stolonifera Michx.
Crataegus columbiana Howell
C. douglasii (Nutt.) T. & G.
Elymus cinereus Scribn. & Merr.
Equisetum arvense L.
Erythronium grandiflorum Pursh
Fragaria virginiana Duchesne
Fritillaria pudica (Pursh) Spreng.
Galium boreale L.
Geranium viscosissimum F. & M.
Geum triflorum Pursh
Gilia aggregata (Pursh) Spreng.
Goodyera oblongifolia Raf.
Grindelia squarrosa (Pursh) Dunal
Heracleum lanatum Michx.
Heuchera cylindrica Dougl.
Hierochloe odorata (L.) Beauv.
Juniperus communis L.
J. scopulorum Sarg.
Larix occidentalis Nutt.
Ledum glandulosum Nutt.
Letharia vulpina (L.) Hue

Lewisia rediviva Pursh
Ligusticum canbyi Coult. & Rose
Lithospermum ruderale Dougl.
Lomatium cous (Wats.) Coult. & Rose
L. macrocarpum (Nutt.) Coult. & Rose
Lonicera ciliosa (Pursh) DC
L. involucrata (Rich.) Banks
Lupinus sp.
Lycoperdon sp.
Lysichitum americanum Hulten & St. John
Matricaria matricarioides (Less.) Porter
Mentha arvensis L.
Monarda fistulosa L.
Nepeta cataria L.
Nuphar variegatum Engelm.
Opuntia polyacantha Haw.
Osmorhiza occidentalis (Nutt.) Torr.
Pachistima myrsinites (Pursh) Raf.
Perideridia gairdneri (H. & A.) Math.
Philadelphus lewisii Pursh
Pinus albicaulis Engelm.
P. contorta Dougl.
P. monticola Dougl.
P. ponderosa Dougl.
Plantago major L.
Populus tremuloides Michx.
P. trichocarpa T. & G.
Prunus virginiana L.
Pseudotsuga menziesii (Mirbel) Franco
Pterospora andromedea Nutt.
Ranunculus glaberrimus Hook.
Rhamnus purshiana DC
Rhus glabra L.
Ribes spp.
Rorippa nasturtium-aquaticum (L.) Schinz & Thell.
Rosa woodsii Lindl.
Rubus idaeus L.
R. leucodermis Dougl.
R. parviflorus Nutt.
Russula sp.
Salix spp.
Sambucus cerulea Raf.
S. racemosa L.
Scirpus acutus Muhl.
Shepherdia canadensis (L.) Nutt.
Sorbus scopulina Greene
Symphoricarpos albus (L.) Blake
Tanacetum vulgare L.
Taxus brevifolia Nutt.
Thalictrum occidentale Gray

Thuja plicata Donn.
Typha latifolia L.
Urtica dioica L.
Vaccinium globulare Rydb.
V. scoparium Leigberg
Veratrum viride Ait.
Verbascum thapsus L.
Viola sp.
Xerophyllum tenax (Pursh) Nutt.
Zigadenus elegans Pursh

APPENDIX II

KEY TO THE PRONUNCIATION OF THE FLATHEAD WORDS

The Flathead language has sounds quite different from that of the English language. No attempt is made to give an exact allophony, as this would not enhance the main text. The following symbols give only an approximation to the true Flathead sounds. These have been adapted and simplified from Hart (1974). The interested reader should pursue this work for the exact allophony.

- a Similar to *a* in *Father*
- B Similar to English
- c Similar to *ts* in *cats*
- c Similar to *ts* in *cats*, but with a strongly exploding quality
- ch Similar to *ch* in *church*
- e Similar to *a* in *Bay* or to *i* in *bird*
- i Similar to *ee* in *beet*
- K Similar to English
- L Similar to English
- lsh A friction sound similar to "sh" but produced farther back where *l* is produced
- M Similar to English
- N Similar to English
- o Similar to *o* in *cot*
- P Similar to English
- K Similar to English
- q Similar to *k*, but the sound is produced farther back in the throat
- S Similar to English

- sh Similar to *sh* in *lush*
 T Similar to English
 tl Produced together with "lh" as one sound
 u Similar to *oo* in *boot*
 x Similar to *ch* in *bach*
 ? The glottal stop is similar to *tt* in *button* (when the "t" sound is not produced)
- The apostrophe is used above the symbol to represent sounds that are strongly exploded or glottalized.
- Symbols underlined indicate that the sound is produced relatively farther back in the mouth than the same symbol when not underlined.
- w When *w* follows other symbols like constant *k*, *x*, and *q*, it indicates that the sound is produced by rounding the lips.

APPENDIX III

A LIST OF GENERAL BOTANICAL TERMS

algae	senupule <u>x</u> we (Ad)
bush	?e <u>s</u> temp (Ad, LP, AP, CW): 'its bunched'
cone	sch <u>ć</u> ic?e (Ad, LP, AP, CW)
ferns	chxwitlshp (AP, AV, CW) text <u>e</u> x <u>e</u> lshp (PB)
flowers	s <u>ć</u> e?ekw (Ad, LP, AP, AV, CW)
fruit	s <u>ć</u> qalq (Ad, LP, AP, CW)
grass	supu?lexw (LP, AV)
leaves	picchlsh (Ad, LP, AV)
leaves (evergreen)	ćheme?e (Ad, LP)
moss	senkwespu (PB)
mushroom	pe <u>t</u> leqine (PB, LP, JP, AP, AV, CW) s?itsh (AV)
plants	skwa?lu?lexw (Ad, LP, AV)
roots	so <u>x</u> wip (Ad, LP, AV)
seeds	senqechti (AP, CW)
tree, trees	?esshit (L), ?e <u>ś</u> el <u>ć</u> il (L)
tree bark	chi?lel <u>x</u> w (Ad, LP, AP, CW)
vines	ćhilyalalkw (Ad, PB, LP, JP, AV, CW)
weeds	chesupu?lexw (Ad, LP, AP, CW)

wood (dry)	xe?malqw (LP)
wood (green)	qelalqw (LP, AP, CW)
woods	<u>n</u> kwe (Ad, LP, AP, CW)

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